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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/668,555

09/22/2003

Ray-Hua Horng

13942 B

2908

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08/27/2009

EXAMINER

BLUM, DAVID S

ART UNIT

PAPER NUMBER

2813

MAIL DATE

DELIVERY MODE

08/27/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/668,555	<b>Applicant(s)</b> HORNG ET AL.	
	<b>Examiner</b> JENNIFER M. DOLAN	<b>Art Unit</b> 2813	

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 and 15 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 25 October 2007 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 2003/0231683 to Chua et al. in view of Japanese Patent Publication No. 08-250804 to Kawasaki.

Chua discloses a light emitting diode (see paragraphs 0003, 0029) having a plated substrate (146; paragraph 0058) and a mirror (142, paragraph 0057), comprising: an LED epitaxial structure sequentially comprising: a second cladding layer (108), an active layer (110 and 112), a first cladding layer (114), a window and a metal contact layer (see paragraph 0039, noting that additional AlGaN cladding layers may be added to layer 114, the additional layers

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functioning as a window – i.e., letting light pass, as well as an ohmic contact material), wherein the second cladding layer is partially exposed (see figure 4), wherein the active layer is made from InGaN (paragraph 0037), noting that InGaN is the claimed  $Ga_xAl_yIn_{1-x-y}N$  with  $y=0$ ; a first electrode (126) formed on the metal contact layer; a second electrode (124) formed on the exposed second cladding layer; a mirror (142; paragraph 0057) formed beneath the LED epitaxial structure (figure 4); and a permanent metal substrate (146; paragraph 0058) plated beneath the mirror, wherein the mirror is made from Al (see paragraph 0057, noting that the metal termination layer can be considered to be the mirror layer). Chua further teaches a transparent conductive film (118; paragraph 0040) between the first electrode and the metal contact layer (figure 4).

Chua fails to teach selectively plating the substrate material so as to leave the sawing streets bare.

Kawasaki teaches that it is desirable to selectively plate submount metals for a light emitting device assembly, such that the cleaving streets are not plated upon (see paragraphs 0007, 0015).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Chua, such that the scribing streets are not plated upon, as suggested by Kawasaki. The rationale is as follows: A person having ordinary skill in the art would have been motivated to leave the scribing streets bare, in order to ensure that cleaving need not occur through the plated metal substrate, and thus prevent a poor cleave (see Kawasaki, paragraphs 0007, 0015).

***Response to Arguments***

4. Applicant's arguments filed 25 October 2007, with respect to the rejection of claims 13 and 15 under 35 U.S.C. 112 second paragraph have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of the Chua et al. and Kawasaki references.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. US 6,649,437 to Yang et al. teaches a LED structure including an electroplated metal substrate and a metal mirror underlying the LED structure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer M. Dolan whose telephone number is (571)272-1690.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W. Whitehead, Jr. can be reached on (571)272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jennifer M Dolan  
Examiner  
Art Unit 2813

/Carl Whitehead Jr./  
Supervisory Patent Examiner, Art Unit  
2813

JMD